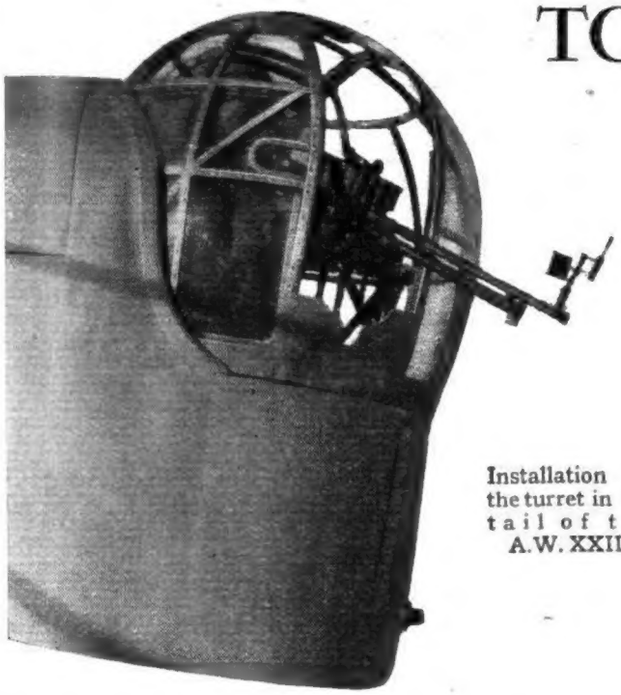
TO BENEFIT MARKSMANSHIP

First Details of the Armstrong-Whitworth Gun Turret : Wide Application : Adopted by R.A.F.



Installation of the turret in the tail of the A.W. XXIII.

TWO new military aeroplanes—the A.W. XXIII bomber-transport and the Avro Anson coastal reconnaissance machine—attracted no little attention in the New and Experimental Types Park at last year's R.A.F. Display. Outstanding among their numerous modern features were gun turrets of a type not previously familiar to the public. Products of Sir W. G. Armstrong Whitworth Aircraft, Ltd., these turrets were fitted in the nose and tail of the big A.W. and one amidships on the Anson. On the latter type the A.W. gun turret has become standard equipment in the Royal Air Force.

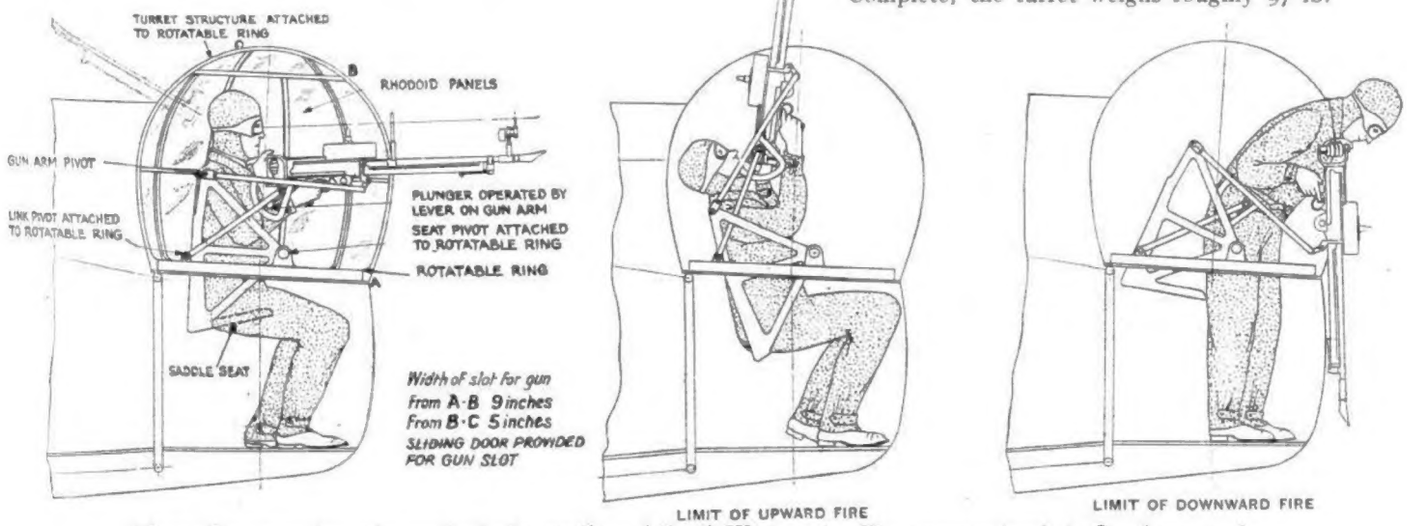
The turret was designed to provide a mounting for a free gun on high-speed aeroplanes, and is applicable to nose, amidships and aft gun positions. Briefly, its purpose is to protect the gunner and to enable the gun to be trained with a minimum of physical effort. A seat is provided for the gunner, who has his weight balanced against that of the gun. There is a special link motion whereby the gunner's line of vision remains in the same relation to the gun sights throughout the entire range of elevation. It is claimed that the balancing of the mechanism completely overcomes the effect of accelerations during manœuvres. To fire vertically downward the gunner stands, and the weight of his gun is taken directly on the mounting.

Operation is entirely manual. The turret rotates on rollers on a vertical track, rotation being effected by reaction from the gunner's feet on the rubber-covered cockpit floor. A mechanical lock is fitted to enable the turret to be locked at any desired angle or traverse. Merely leaning backward or forward is sufficient to alter the elevation, and in practice, it is said, this movement is quite natural, demanding no mental effort by the gunner. A small movement on the seat compensates for the varying weight of gunners.

Although independent locks are provided for both the rotational and elevating movements, it has been found in practice that the gun can be fired with the entire mechanism free, no ill effects being experienced from recoil. It is possible, therefore, to follow a target continuously.

The only external unbalanced force is that caused by the protrusion of the gun barrel. Firing aft, and through a horizontal traverse of 60 degrees on each side, it is claimed, no inconvenience is experienced at any speed. When firing fully broadside, however, the gun barrel creates a rotational force which must be resisted by the gunner.

Substantially of spherical formation, the turret casing consists of a metal framework and suitably formed Rhodoid panels. The slot through which the barrel of the gun protrudes is fitted with an articulated sliding cover allowing the turret to be completely sealed when the gun is not in use. Complete, the turret weighs roughly 97 lb.



These diagrams show the method of operation of the A.W. turret. The gunner stands to fire downwards.

The R.A.F. Book

"WELL-PRODUCED, and packed with extraordinarily vivid pictures, the volume must make an irresistible appeal to boys of all ages up to 80." That is the opinion of the *Sunday Times* reviewer about the *Flight* book, *Squadrons of the Royal Air Force*, and it is typical of the numerous reviews which have appeared in leading journals.

The expansion of the Royal Air Force goes steadily on, and thousands of applications are pouring in to the Air Ministry and the recruiting offices. This book will tell prospective officers and airmen all about the great Service of which they hope to become members.

Airwork on the Continent

MR. R. L'ESTRANGE MALONE, Airwork's European sales manager, is to tour the Continent for about two months in a D.H. Hornet Moth, for contact and demonstration purposes. He is due to leave in three to four weeks' time, and will commence with a visit to Spain and Portugal. The tour, which is to finish in Scandinavia, will probably include all European countries excepting Italy. Continental aero clubs, air transport companies, and private pilots interested in any type of British aircraft will be assured of special attention if they write their requirements to the Airwork sales department, Heston Airport, London, at the earliest possible date.